REMARKS/ARGUMENTS

In the Office Action dated October 18, 2006 claims 1, 6, 8-9, and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by Morimoto et al. (US4828932, hereinafter "Morimoto"). Claims 10-12 and 17-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Morimoto. Claims 2-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Morimoto in view of Arcas et al. (US5175401, hereinafter "Arcas"). Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Morimoto in view of Alts (US6569509, hereinafter "Alts"). Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Morimoto in view of Kraft (US6182787, hereinafter "Kraft"). Claims 14-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Morimoto in view of Lowery et al. (US5962107, hereinafter "Lowery"). Claim 20 was rejected under 35 U.S.C. §103(a) as being unpatentable over Morimoto in view of Ely et al. (US4291080, hereinafter "Ely"). Claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over Morimoto in view of Ely and further in view of Alts. Claims 22-25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Morimoto in view of Ely and further in view of Lowery. Claim 7 was objected to due to informalities.

Claims 1-25 are pending in this application. Claim 7 has been amended to correct the informalities. No new matter has been added.

The Applicant respectfully submits that the present invention, according to claims 1, 6, 8-9, and 13 is not anticipated by Morimoto.

The present invention relates to an acoustic liner, comprising a top sheet having substantially linear characteristics and a liner core or cavity, wherein the top sheet comprises a layer of metallic foam.

Morimoto discloses a porous metallic material constructed of a laminate consisting of an expanded metal and a fibrous metallic fiber both of which are pressed to be joined to each other under pressure. The porous metallic materials may be laminated to a honeycomb structural element and a rigid plate so as to form a porous structural material. The porous metallic material is used as a decorative sound absorbing material. In Figure 5, Morimoto discloses a structural element 20 having an interposed structural element 4, a top sheet in the form of a porous metallic material 1 and a rigid plate 5. The porous metallic material comprises two layers of expanded metal 3 and a metallic-fiber layer 2. The metallic-fiber layer is reinforced with the expanded metal layer. Thus, no metallic foam layer has been disclosed or suggested in the Morimoto reference. The Examiner refers to column 3, lines 40-60, but no metallic foam is mentioned there. Although Morimoto mentions the existence of a foaming process of molten metal, Morimoto does not disclose using such a material to form the disclosed structures. Instead, Morimoto teaches the use of a different material, a porous metallic material, to form the structures. Thus, Morimoto does not disclose or suggest the requirement of the present invention, for example, according to claim 1, of the top sheet comprising a layer of a metallic foam. In addition, the porous metallic layer in Morimoto does not have substantially linear characteristics, such as regarding

both the flow and the temperature, as is required by the present invention, for example, according to claim 1.

The acoustic liner according to the present invention comprises a metallic foam layer in the top sheet. The metallic foam layer is a metallic layer comprising open cells. Examples of advantages of such foam include the strength of the foam. As another example, the metallic foam layer provides the acoustic attenuation properties. As a further example, the metallic foam layer provides a liner which is linear with respect to flow variations and with respect to temperature variations. No prior art liner provides the proper linearity regarding both these variations in a liner material. As an example of benefits from this "dual linearity" the liner according to the present invention will, if used in aero-engine applications, work well at any gas flow through the engine and at any temperature (hot or cold) in the area of the liner. The liner will thus work well regardless of engine setting (power) during operation and it can be used in both hot and cold locations in the engine and also in locations where the temperature will vary during engine operation.

Thus, Morimoto does not disclose or suggest the requirement of the present invention, for example, claim 1, for a top sheet having substantially linear characteristics and wherein the top sheet comprises a layer of a metallic foam.

Therefore, the present invention, according to claim 1, and according to claims 6, 8-9, and 13, which depend therefrom, is not anticipated by Morimoto.

The Applicant respectfully submits that the present invention, according to claims 10-12 and 17-19 is not unpatentable over Morimoto as modified, because

even if Morimoto were modified as suggested by the Examiner, the result would not be the present invention as claimed. As Morimoto does not disclose or suggest the requirement of the present invention, for example, claim 1, for a top sheet comprising a layer of a metallic foam, it would not have been obvious to choose such a foam layer according to the present claims 10-12. Further, since a liner comprising a metallic foam layer is not disclosed in Morimoto, the liner in claim 17, referring to a liner according to claim 1, and the use in claim 18 and 19 of a liner according to claim 1 can not be considered obvious in view of Morimoto.

Thus, the present invention according to claims 10-12 and 17-19 is not obvious in view of Morimoto modified as suggested by the Examiner.

The Applicant respectfully submits that the present invention, according to claims 2-4 is not unpatentable over Morimoto in view of Arcas, because even if Morimoto and Arcas were combined as suggested by the Examiner, the result would not be the present invention as claimed.

Arcas discloses an acoustic attenuating liner that has a non-metallic honeycomb core bonded on a backsheet. A corrosion insulated perforated sheet is bonded to the honeycomb core by adhesive between the perforated sheet and the core. Arcas also does not disclose or suggest the requirement of the present invention, for example, claim 1, for a top sheet comprising a layer of a metallic foam.

Thus, the combination of Morimoto and Arcas still does not does not disclose or suggest the requirement of the present invention, for example, claim 1, for a top sheet comprising a layer of a metallic foam.

In addition, it is not obvious in view of the combination of Morimoto and Arcas to choose a nonlinearity factor in a metallic foam as in the present claims 2-4. As Arcas discloses a graphite epoxy weave, not a metallic foam, Arcas provides no disclosure or suggestion of obtaining any particular non-linearity factor in a metallic foam. Thus, nothing further is shown by Arcas that would lead a skilled person to the solution according to the present invention in claims 2-4.

Thus, the present invention, according to claims 2-4 is not obvious over Morimoto in view of Arcas.

The Applicant respectfully submits that the present invention, according to claim 5 is not unpatentable over Morimoto in view of Alts, because even if Morimoto and Alts were combined as suggested by the Examiner, the result would not be the present invention as claimed.

Alts discloses an ultralight, sound and shock absorbing component set comprising at least one base layer (2), an intermediate layer (3) and a covering layer (6). The intermediate layer (3) consists of a plurality of hollow bodies (4) arranged next to each other, whose walls are perforated and which thus form a complex labyrinth of hollow spaces. Alts makes no mention of metallic foam. Thus, Alts does not disclose or suggest the requirement of the present invention,

for example, claim 1, from which claim 5 depends, for a top sheet comprising a layer of a metallic foam.

Thus, the combination of Morimoto and Alts still does not does not disclose or suggest the requirement of the present invention, for example, claim 1, for a top sheet comprising a layer of a metallic foam.

In addition, the panel in Alts comprises covering layer 6, which comprises a microporous stiffening layer 8. The microporous layer 8 may be a highly compacted nonwoven layer (column 5, lines 54-55). The layer closest to the core is also a compacted nonwoven layer 7. Thus, no metallic foam layer is shown which is attached directly to the core, as required by claim 5.

Thus, the present invention, according to claim 5 is not obvious over Morimoto in view of Alts.

The Applicant respectfully submits that the present invention, according to claim 7 is not unpatentable over Morimoto in view of Kraft, because even if Morimoto and Kraft were combined as suggested by the Examiner, the result would not be the present invention as claimed.

Kraft discloses an acoustic treatment for the air ducts of a gas turbine engine. The acoustic treatment generally includes a facesheet having a plurality of holes therein, a backplate spaced apart from the facesheet, and a plurality of interconnected cells between the facesheet and backplate. Each of the cells is defined by walls attached to the facesheet and the backplate, and at least some of the walls are formed of a porous material so that air is able to flow through the

cells in a direction parallel to the facesheet and backplate. Kraft makes no mention of metallic foam. Thus, Kraft does not disclose or suggest the requirement of the present invention, for example, claim 1, from which claim 7 depends, for a top sheet comprising a layer of a metallic foam.

Thus, the combination of Morimoto and Kraft still does not does not disclose or suggest the requirement of the present invention, for example, claim 1, for a top sheet comprising a layer of a metallic foam.

In addition, Kraft does not disclose or suggest a liner comprising a top sheet comprising a metallic foam layer. Although Kraft mentions rigid foam material as a core material, Kraft does not disclose or suggest that this material is a metallic foam. Likewise, there is no disclosure or suggestion to use a metallic foam layer in the top sheet as in the present invention and neither to use it in the core layer, as required by claim 7.

Thus, the present invention, according to claim 7 is not obvious over Morimoto in view of Kraft.

The Applicant respectfully submits that the present invention, according to claims 14-16 is not unpatentable over Morimoto in view of Lowery, because even if Morimoto and Lowery were combined as suggested by the Examiner, the result would not be the present invention as claimed.

Lowery discloses a perforated cellular sound absorption material made of a material such as polyurethane. Lowery makes no mention of metallic foam. Thus, Lowery does not disclose or suggest the requirement of the present

invention, for example, claim 1, from which claims 14-16 depend, for a top sheet comprising a layer of a metallic foam.

Thus, the combination of Morimoto and Lowery still does not does not disclose or suggest the requirement of the present invention, for example, claim 1, for a top sheet comprising a layer of a metallic foam.

Thus, the present invention, according to claim 14-16 is not obvious over Morimoto in view of Lowery.

The Applicant respectfully submits that the present invention, according to claim 20 is not unpatentable over Morimoto in view of Ely, because even if Morimoto and Ely were combined as suggested by the Examiner, the result would not be the present invention as claimed.

As discussed above, Morimoto does not disclose or suggest a top sheet comprising a layer of a metallic foam. Ely discloses a sound-suppressing panel for use on the surface of a structure adjacent which a fluid is to flow. Ely makes no mention of metallic foam. Thus, Ely does not disclose or suggest the requirement of the present invention, for example, claim 20, for a top sheet comprising a layer of a metallic foam.

Thus, the combination of Morimoto and Ely still does not does not disclose or suggest the requirement of the present invention, for example, claim 20, for a top sheet comprising a layer of a metallic foam.

In addition, Ely does not disclose or suggest a liner comprising a top sheet comprising a metallic foam layer. Although Ely mentions rigid foam material as a

core material, Ely does not disclose or suggest that this material is a metallic foam. Likewise, there is no disclosure or suggestion to use a metallic foam layer in the top sheet as in the present invention and neither to use it in the core layer, as required by claim 20.

Thus, the present invention, according to claim 20 is not obvious over Morimoto in view of Ely.

The Applicant respectfully submits that the present invention, according to claim 21 is not unpatentable over Morimoto in view of Ely and further in view of Alts, because even if Morimoto, Ely, and Alts were combined as suggested by the Examiner, the result would not be the present invention as claimed.

As discussed above, none of Morimoto, Ely, and Alts discloses or suggests a top sheet comprising a layer of a metallic foam. Thus, the combination of Morimoto, Ely, and Alts still does not does not disclose or suggest the requirement of the present invention, for example, claim 21, for a top sheet comprising a layer of a metallic foam.

Thus, the present invention, according to claim 21 is not obvious over Morimoto in view of Ely and further in view of Alts.

The Applicant respectfully submits that the present invention, according to claim 22-25 is not unpatentable over Morimoto in view of Ely and further in view of Lowery, because even if Morimoto, Ely, and Lowery were combined as suggested by the Examiner, the result would not be the present invention as claimed.

As discussed above, none of Morimoto, Ely, and Lowery discloses or suggests a top sheet comprising a layer of a metallic foam. Thus, the combination of Morimoto, Ely, and Lowery still does not does not disclose or suggest the requirement of the present invention, for example, claim 22-25, for a top sheet comprising a layer of a metallic foam.

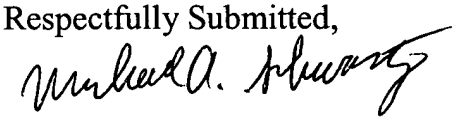
Thus, the present invention, according to claim 22-25 is not obvious over Morimoto in view of Ely and further in view of Lowery.

Each of the claims now pending in this application is believed to be in condition for allowance. Accordingly, favorable reconsideration of this case and early issuance of the Notice of Allowance are respectfully requested.

Additional Fees:

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with this application to Deposit Account No. 19-5127 (25880.0066).

Respectfully Submitted,



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